IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

    Rycharde Jeffery Hawkes, *et al.*

Serial No.: 10/695,549

Filed: October 28, 2003

Confirmation No. 5467

Group Art Unit: 2121

Examiner: Stevens, Thomas H.

Docket No. 30018432-2

For: Simulation at Two Different Levels of Complexity

Proposed Amendments

Examiner Stevens:

    Pursuant to our telephone conversation, enclosed is a claim listing with amendments correcting various informalities.

Regards,

/Charles W. Griggers/

Charles W. Griggers
Reg. No. 47,283

LISTING OF CLAIMS

The following is a copy of Applicants' claims that identifies language being added with underlining ("___") and language being deleted with strikethrough ("——"), as is applicable:

1. (Currently Amended) A method of simulating a creature for use in two different complexities of simulation, the method comprising:

utilizing a model of the creature that comprises at least two portions:

a first portion which contains functions for use in both of said two different complexities of simulation; and

a second portion comprising two alternative versions:

a first version for use in one of said two different complexities of simulation, wherein the first version utilizes a neural network; and

a second version for use in the other of said different complexities of simulation,

wherein said first portion comprises a behavior selection mechanism arranged to select the behavior of said creature and said second portion is arranged to execute the selected behavior.

2. (Canceled)

3. (Currently Amended) A method as claimed in claim 1, wherein said behavior selection mechanism is arranged to select the behavior based upon at least one of:

the a current behavioral state;

one or more internal state variables of the creature;

the an environment surrounding the creature; and

one or more sensory inputs to said creature.

4. (Previously Presented) A method as claimed in claim 1, wherein said behavior selection mechanism consists of a set of mutually exclusive behavioral states.

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5. (Currently Amended) A method as claimed in claim 1, wherein the second version is for use in the ~~a~~ less complex of the simulations, and is arranged to approximate ~~the functionality of~~ the first version.

6-7. (Canceled)

8. (Previously Presented) A method as claimed in claim 1, wherein the first version utilizes a three dimensional physical simulation of an animat, and the second version utilizes a parameterized model of the animat to approximate movement.

9. (Currently Amended) A method of simulating activities of a plurality of creatures, the method comprising utilizing at least two modes of simulation:

a first mode arranged to simulate the activities of all of said creatures; and

a second mode arranged to simulate an activity of at least one of said creatures at a more detailed computational level of complexity than said first mode, wherein a model of a creature simulated in both modes of simulation comprises at least two portions:

a first portion which contains functions arranged for use in both of said <u>first,</u> <u>second</u> modes of simulation; and

a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode when selected for closer inspection of the at least one creature being simulated.

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10. (Currently Amended) A method of simulating a process at two different levels of complexity, the method comprising:

utilizing a model that comprises at least two portions:

a first portion which contains functions for use in both of said two different complexities of simulation; and

a second portion comprising two alternative versions:

a first version for use in one of said two different levels of complexities of simulation when selected for closer inspection of the process being simulated; and

a second version for use in the other of said different levels of complexities of simulation, wherein the second version is for use in the a less complex level of the simulations, and is arranged to approximate the functionality of the first version.

11. (Original) A method as claimed in claim 10, further comprising evaluating one or more conditions to determine a result of a rule for selecting which of the two alternative versions of the second portion to use in simulating the process.

12. (Canceled)

13. (Original) A method as claimed in claim 10, wherein the first version utilizes a neural network.

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14. (Currently Amended) A simulator device arranged to simulate a creature in two different levels of complexities of simulation, the simulator device being arranged to utilise a model of the creature that comprises at least two portions:

a first portion which contains functions used in both of said two different levels of complexities of simulation; and

a second portion comprising two alternative versions, a first version used in one of said two different levels of complexities of simulation when selected for closer inspection of the process being simulated, and second version used in the other of said different levels of complexities of simulation; wherein the second version is for use in the a less complex of the simulations, and is arranged to approximate the functionality of the first version.